

VARIANCE / FIELD CHANGE NOTICE				53000-SOW-0003-05 V/F No.	
PROJECT NO: N/A				Page 1 of 2	
DOCUMENT NO: 53000-SOW-0003				Date: 10/11/01	
DOCUMENT TITLE: SOW for Acid and Chlorination Treatment of Reinjection Wells					
Requirement:					
<p>Use this scope of work to implement Acid and Chlorination Treatment (Rehabilitation) of Extraction Well EW-21.</p> <p style="text-align: right; font-size: 1.5em;">3921</p> <p>In addition, Pre-Rehabilitation Sampling for extraction wells will be directed by the project engineer on a well by well basis.</p>					
Variance:					
<p>Use methods previously used on Reinjection Wells to Rehabilitate Extraction Well 21.</p> <p>Modify the treatment chemical quantity Tables as follows for Extraction Well EW-21.</p> <p>- See Attached</p>					
INFORMATION ONLY					
Justification:					
<p>This variance allows the use of an existing scope to accomplish rehabilitation of extraction wells using the new methods developed for injection well rehabilitation.</p>					
Requested By: Rob Kneip <i>RK</i>				Date: 10/15/01	
X IF REQD	V/FCN APPROVAL	DATE	X IF REQD	V/FCN APPROVAL	DATE
X	<i>B. S. Wells</i> for FBT.	10/16/01	X	<i>Keith Lanning</i>	10/16/01
	QUALITY ASSURANCE		X	<i>Vi. Spittel</i>	10/16/01
	DATA QUALITY MANAGEMENT		X	<i>Mike F. Lanning</i>	10/16/01
	ANALYTICAL CUSTOMER SUPPORT		X	<i>Keith Lanning</i>	10/16/01
	OTHER		X	<i>Keith Lanning</i>	10/16/01
REVISION REQUIRED (Document NO. & Title): <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					

TABLE 2
VOLUMES FOR ACID TREATMENT SOLUTION

1	2	3	4	5	6
Well	Starting volume of potable or treated water (gallons)	Add gallons of HCL	Add gallons of phosphoric Acid (gallons)	Add gallons of NW-310	Total Vol. of Acid treatment solutions (gallons)
EW-21	364	87	11	13	485

TABLE 3
ACID SOLUTION DISPENSING VOLUMES

Well	25% just below the water table, (gallons)	50% at the top of the well screen, or half way between water table and base of screen (gallons)	25% at the base of the Screen (gallons)	Total Volume dispensed (gallons)
EW-21	121	243	121	485

TABLE 4
VOLUMES FOR SECOND DOSE (IF REQUIRED)
20% (BY VOLUME) OF ORIGINAL ACID TREATMENT SOLUTION DOSE

1	2	3	4	5	6
Well	Starting volume of potable or treated water (gallons)	Add gallons of HCL	Add gallons of phosphoric Acid (gallons)	Add gallons of NW-310	Final volume of Additional dose (gallons)
EW-21	65	17	2	3	97

TABLE 5
DISPENSING VOLUMES FOR SECOND ACID TREATMENT SOLUTION DOSE

Well	25% just below the water table, (gallons)	50% at the top of the well screen, or half way between water table and base of screen (gallons)	25% at the base of the Screen (gallons)	Total Volume dispensed (gallons)
EW-21	24	49	24	97

TABLE 6
VOLUMES TO BE PUMPED

Well	Volumes to be Pumped (gallons)
EW-21	9,700

TABLE 7
CHLORINATION SOLUTION VOLUMES

1	2	3	4	5
Well	Starting Volume of potable water (gallons)	Add gallons of NW-310	Add gallons of Sodium Hypochlorite	Total Treatment Volume (gallons)
EW-21	720.5	1.0	1.5	728